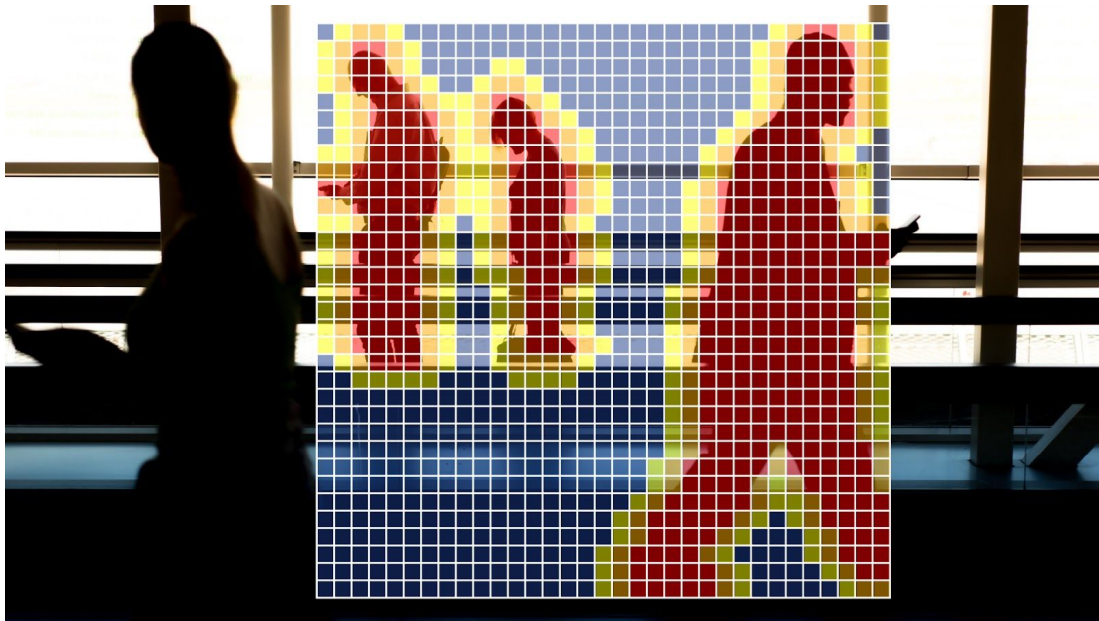# TeraRanger Evo Thermal
by TERABEE

**Monitor heat variations, detect movement and capture the unseen!
The thermographic addition to the Evo sensor family offers versatile
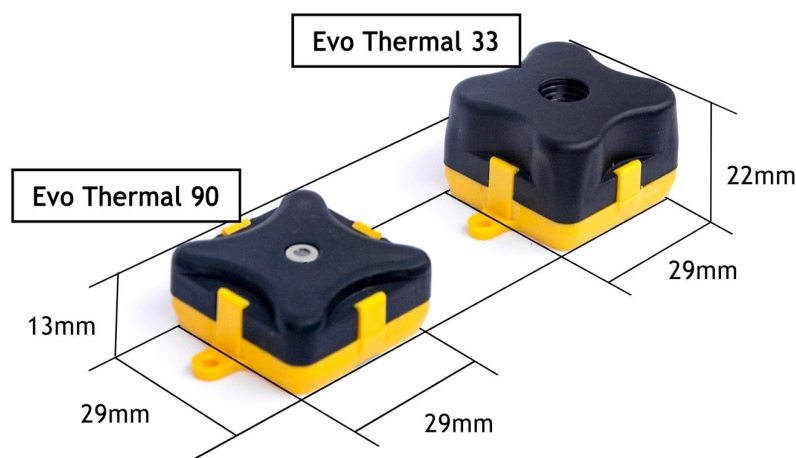performance in a compact and affordable design!**

Key features

- 32x32 pixel thermal image
- Available in 2 versions: 90˚and 33˚Field-Of-View
- Small and lightweight design (from 7 grams)
- UART and USB interface. Other interfaces possible (RS485, Lora/Sigfox, Ethernet, CAN, etc.)
- Low power consumption
- Privacy protected, non-intrusive data collection
- Operates in a broad range of conditions - sunlight, darkness, poor visibility
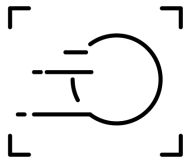- Free Graphical user interface available on PC

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Technical Specifications

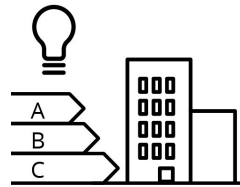|	Evo Thermal 90	Evo Thermal 33
Principle:	Infrared thermopile array	
Resolution:	32 x 32 pixels	
FoV:	90°x 90°	33°x 33°
Update Rate:	7Hz	14Hz
Temperature Range:	-20°C to 670°C	-20°C to 1000°C
Temperature Accuracy:	±2°C for targets below 100°C; 2% for targets above 100°C	
NETD: (at 1Hz, 25°C)	330mK (0.33°C)	254mK (0.25°C)
Range, specific to human body detection:	Up to 5m	Up to 13m
Temperature Compensation:	Automatic	
Supply Voltage:	5V DC ±5%	
Current consumption: (typical-maximum)	45mA - 75mA	
Operating temperature:	-10°C to 65°C	
Interfaces:	USB 2.0 Micro-B	
	UART, +3.3V level, 1500000,8,N,1.	
Connectors:	Single 9 pin Hirose DF13 (UART Blackboard)	
	Micro USB (USB Backboard)	
Weight:	7g (sensor) + 3g (backboard)	9g (sensor) + 3g (backboard)
Dimensions: (sensor + backboard)	Approx. 29x29x13mm	Approx. 29x29x22mm
Conformity:	RoHS, CE certified (pending)	

Accuracy may vary depending on distance, target emissivity and ambient temperature.
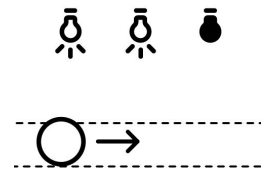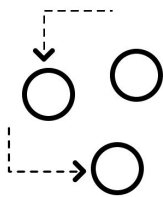
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Applications

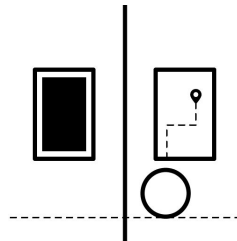**Heat source tracking, counting**

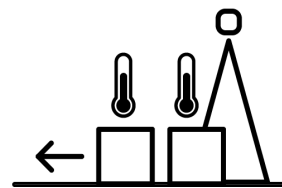**Building efficiency optimization**

Adaptive lighting
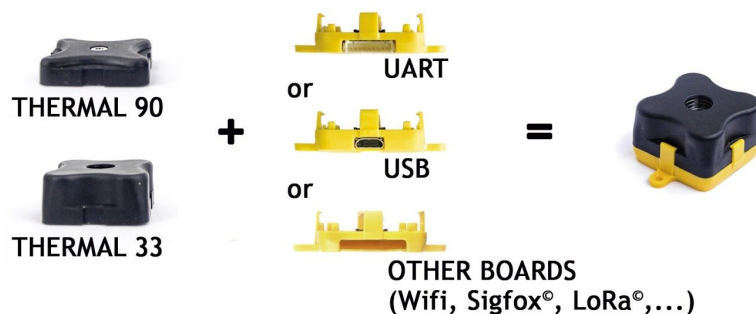

Heat movement monitoring

Responsive display advertising

Machine and process temperature monitoring

Customizable and Modular Evo Design

Evo Thermal sensors consist of a thermographic sensing device (black module, 7g or 9g) and a choice of backboard (yellow module, 3g), which simply plugs-in to provide the sensor with a communication link and power management capabilities. You simply choose the backboard that best suits your application and communication protocol! **USB and UART backboards are available**. Other Backboards with industry standard interfaces and protocols can also be made to support your application. Contact us at teraranger@terabee.com to discuss your project requirements.

The TeraRanger Evo Thermal sensors can be purchased via our online store at:
http://www.teraranger.com/product/teraranger-evo-thermal/